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The Trusted Integrator for Sustainable Solutions

REMOVAL SUPPORT TEAM 3
EPA CONTRACT EP-S2-14-01

October 19, 2017

Mr. Keith Glenn, On-Scene Coordinator
U.S. Environmental Protection Agency, Region II
Response and Prevention Branch
2890 Woodbridge Avenue
Edison, New Jersey 08837

EPA CONTRACT No: EP-S2-14-01
TDD No: TO-0007-0103
DC No: RST3-04-F-0037
SUBJECT: PUBLIC WATER SUPPLY SYSTEMS ASSESSMENT REPORT HURRICANE MARIA/DORADO GROUNDWATER CONTAMINATION SITE; MUNICIPALITY OF DORADO, NORTH-CENTRAL PUERTO RICO

Dear Mr. Glenn,

Enclosed please find the Public Water Supply Systems Assessment Report which summarizes the drinking water sampling activities conducted by the U.S. Environmental Protection Agency (EPA) with the support of Weston Solutions, Inc., Removal Support Team 3 (RST 3) at the public water supply wells located in the vicinity of the Dorado Groundwater Contamination (DGWC) site in the Municipality of Dorado, North-central Puerto Rico. The sampling event was performed on October 14, 2017 as part of the post-Hurricane Maria public water supply systems evaluation. EPA's comments to the prior version of this report (RST3-04-D-0071) have been addressed and incorporated.

If you have any questions or comments, please contact me at (732) 585-4413.

Sincerely,

Weston Solutions, Inc.

Bernard Nwosu
For: RST 3 Site Project Manager

Enclosure
cc: TDD File: TO-0007-0103

PUBLIC WATER SUPPLY SYSTEMS ASSESSMENT REPORT

HURRICANE MARIA/DORADO GROUNDWATER CONTAMINATION SITE

Municipality of Dorado, North-Central Puerto Rico

SSID No: H002

DC No: RST3-04-F-0037
TDD No: TO-0007-0103
EPA Contract No: EP-S2-14-01

Prepared for:

U.S. Environmental Protection Agency, Region II
2890 Woodbridge Avenue
Edison, New Jersey 08837

Prepared by:

Removal Support Team 3
Weston Solutions, Inc.
Federal East Division
Edison, New Jersey 08837

October 2017

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LIST OF ATTACHMENTS

1.0 Introduction

As part of the post-Hurricane Maria public water supply systems evaluation, on October 14, 2017, the U.S. Environmental Protection Agency (EPA) Region II, with the support of Weston Solutions Inc., Removal Support Team 3 (RST 3), conducted an assessment of public water supply system facilities at Maguayo 2 Well, Maguayo 4 Well, Maguayo 6 Well, Santa Rosa Well, and Nevarez Well, all located in the vicinity of the Dorado Groundwater Contamination (DGWC) Site (the Site). Drinking water samples were collected from four of the five facilities and submitted for laboratory analysis.

1.1 Site Location and Description

The Site consists of a groundwater contaminant plume, but the contamination cannot be clearly attributed to any specific source. The plume is located within the municipality (translated from "municipio") of Dorado in north-central Puerto Rico. The geographical coordinates of the Site are 18° 25' 47.12" north, latitude (18.42975602°) and 66° 16' 41.95" west, longitude (-66.27832042°), based on the location of supply well Maguayo 6 near the center of the area of observed groundwater contamination. The public supply wells for this sampling event are geographically located as follows: Maguayo 2 Well, 18.42528 north and -66.29863 west; Maguayo 4 Well, 18.42811 north and -66.29051 west; Maguayo 6 Well, 18.42980 north and -66.27837 west; Santa Rosa Well, 18.42038 north and -66.26795 west; and Nevarez Well, 18.42118 north and -66.26565 west.

Refer to Figure 1: Site Location Map.

1.2 Site History and Background

There are two active water supply systems in Dorado for which groundwater wells are primary contributors: Maguayo and Dorado Urbano, serving populations of 36,630 and 31,061. At least one well in the Dorado Urbano system has also been used to provide emergency water to other areas of the island impacted by drought. There is also an inactive system, Vivoni, which consisted of the Vivoni well located south (i.e., upgradient) of the other wells. These groundwater systems are operated as a public utility by Puerto Rico Aqueduct and Sewer Authority (PRASA). Wells in the Maguayo and Dorado Urbano systems have shown detections of volatile organic compounds (VOC), primarily tetrachloroethylene (PCE) and trichloroethylene (TCE), since the 1980s. The U.S. Geological Survey (USGS) reported PCE and TCE detections for samples collected from Maguayo and Dorado Urbano system wells during the period November 1984 to May 1985. PRASA and Puerto Rico Department of Health (PRDOH) documentation indicates detections for the Maguayo and Dorado Urbano system wells for the time period 1996 to 2000. PRASA data sheets for well samples collected from 2002 to 2015 show the ongoing presence of PCE and TCE in Dorado-area groundwater. Some reported concentrations have exceeded maximum contaminant levels (MCL), and since the 1990s some wells have been closed either temporarily or permanently.

2.0 Scope of Work

RST 3 was tasked by EPA with the collection of drinking water samples, including quality assurance/quality control (QA/QC) samples, from spigots present at the water supply well facilities to be sampled during this event. The scope of work included the collection of one set of drinking water samples immediately upon turning on the spigot at any of the facilities, and the collection of

a second set of drinking water samples after allowing the water to run for approximately 5 minutes. If the well was operational and approved for use (Santa Rosa Well and Nevarez Well), only one drinking water sample was collected immediately upon turning on the spigot. The following analyses, including total coliform, E. coli, sanitary (nitrate and nitrite), target analyte list (TAL) metals, and volatile organic compounds (VOCs), were requested by EPA to be conducted at EPA-certified laboratories. Due to sample holding times, limitations on sample shipment delivery via Federal Express (FedEx), both on-island and to the mainland, and the limited availability of laboratories in Puerto Rico to conduct certain analyses, the E. coli, sanitary, and total coliform samples were delivered via courier to Beckton Environmental Laboratories (Beckton) in Ponce, Puerto Rico, while the VOC and TAL metals samples were shipped to the EPA Region II Division of Environmental Science and Assessment (DESA) Laboratory in Edison, New Jersey.

RST 3 was also tasked with providing support for photographic documentation and notation in the Site logbook of all site activities, entering sampling information into the Survey 123 iPad application and the EPA Scribe database, and documenting sampling locations with Global Position System (GPS) technology.

Refer to Figure 2: Public Water Supply Well Location Map.

3.0 On-Site Personnel

Name	Affiliation	Duties On-site
Gary Lipson	EPA, Region I	Lead, On-Scene Coordinator
Aarti Reddy	EPA, Region II	On-Scene Coordinator
Wanda Ayala	EPA, Region II	On-Scene Coordinator
Guillermo Hernandez-Lopez	Weston Solutions, Inc. RST 3, Region II	Lead, Site Collection, Sample Management, Documentation
Valerie Bauer	Weston Solutions, Inc. RST 3, Region II	Site Collection, Sample Management, Documentation
Erik Hascall	Weston Solutions, Inc. RST 3, Region II	Site Collection, Sample Management, Documentation

EPA: U.S. Environmental Protection Agency
RST 3: Removal Support Team 3

4.0 Summary of Site Activities and Observations

On October 14, 2017, the sampling team of EPA On-Scene Coordinators (OSCs) and RST 3 personnel visited five public water supply well facilities, including Maguayo 2 Well, Maguayo 4 Well, Maguayo 6 Well, Santa Rosa Well, and Nevarez Well, all located in the vicinity of the Site. Drinking water samples were scheduled to be collected from the five public water supply facilities; however, only four of the five facilities were sampled during this event (the Navarez Well was not sampled).

At approximately 10:55 hours, the sampling team arrived at the Maguayo 4 Well facility. While collecting drinking water samples from a spigot at the facility, news media reporters from CNN and the Washington Post were present. The gate to the water supply well was open, and residents were filling up their water containers from the water supply system. Two sets of drinking water

samples were collected from the Maguayo 4 water supply system, one immediately after opening the spigot, and one after allowing the water to run for approximately 5 minutes.

At 12:50 hours, the sampling team arrived at the Maguayo 6 Well facility. The gate was locked upon arrival, but a portion of the fence was down, allowing access. The sampling team did not observe any person filling up water containers from the water supply system. A resident within the neighborhood confirmed to EPA that public water had been restored to some homes in the area. A strong chlorine odor was noted at the water supply system well. A MultiRAE air monitor equipped with a photoionization detector (PID) and chlorine sensor was used to screen the area. The presence of chlorine and/or VOCs was not detected. Two sets of drinking water samples, one immediately after opening the spigot, and one after allowing the water to run for approximately 5 minutes, were collected, as well as one field duplicate set of drinking water sample for QA/QC purposes, were collected from the Maguayo 6 water supply system through the spigot.

At approximately 14:15 hours, the sampling team arrived at the Santa Rosa Well facility, which was operational. The operator of the facility informed EPA that the water was chlorinated with chlorine gas. News media reporters were present, and residents and municipal water trucks were obtaining water at the facility. In addition, the operator at the Santa Rosa Well facility indicated that other supply wells, including Maguayo 2, 6, and 7 had chlorination present in the water. One set of drinking water samples was collected immediately after opening the spigot

While at the Santa Rosa Well facility, the operator informed EPA that the standby generator for the Nevarez Well facility was not functioning. At approximately 14:40 hours, the sampling team arrived at the Nevarez Well facility and found the access gate locked. From the open grids of the access gate, the sampling team observed that the water meters were not running, and the faucets were dry with no evidence of leaking water. The sampling team departed the facility without collecting any water samples.

At approximately 15:00 hours, the sampling team arrived at the Mauayo 2 facility. Residents were obtaining water from two different spigots at this facility when the sampling team arrived. A mild chlorine odor was noted. One set of drinking water samples was collected immediately after opening the spigot at each of the two spigots at the Maguayo 2 facility. A Trip Blank QA/QC sample was also collected at this time. The sampling team departed the Site at 15:40 hours.

Refer to Attachment C: Photographic Documentation Log.

5.0 Sampling Methodology

All field work was performed in accordance with the RST 3 *Site-Specific Health and Safety Plan* (HASP), the EPA Region 2 Quality Assurance Project Plan (QAPP) for the Evaluation of Public Water Supply Systems for Hurricane Maria, dated September 2017, EPA's Emergency Response Team (ERT)/Scientific, Engineering, Response & Analytical Services (SERAS) contractor Standard Operation Procedures (SOPs) Number (No.) 2001: *General Field Sampling Guidelines* and SOP No. 2007: *Groundwater Sampling.*

For wells not currently approved for drinking water use (Maguayo 4 and Maguayo 6), one set of drinking water samples were collected directly into three 40 milliliter (mL) volatile organic analysis (VOA) vials, three 250 milliliter (mL) high density polyethylene (HDPE) plastic bottles,

and one 50 mL HDPE plastic bottle immediately upon turning on the spigot, and a second set of drinking water sample was collected into the same types and number of sample containers after allowing the water to run for at least 5 minutes. For wells currently approved for drinking water use (Santa Rosa), only one set of drinking water samples were collected immediately upon opening the spigot. Due to uncertainty about the status of the Maguayo 2 Well, one set of drinking water samples were collected from each of the two spigots at the facility immediately upon turning on the spigot.

The drinking water samples were collected for the following laboratory analyses, including total coliform, E. Coli, sanitary (nitrate and nitrite), TAL metals, and VOCs. Samples for total coliform and E. Coli analyses were each collected in 250 mL HDPE plastic bottles and stored on ice in a transportation cooler at temperature less than (<) 10 degrees centigrade (^{0}C) if residual chlorine was absent in the sample, or preserved with sodium thiosulfate ($Na_2S_2O_3$) if residual chlorine was present in the sample, and stored on ice in a transportation cooler at temperature < 10 ^{0}C. Each samples for sanitary analysis was collected in a 50 mL HDPE plastic bottle, preserved with hydrogen sulfate (H_2SO_4) to pH < 2, and stored on ice in a transportation cooler at temperatures of 0 to 6 ^{0}C. Each sample for TAL metals analysis was collected in a 250 ml HDPE plastic bottle, preserved with nitric acid (HNO_3) to pH less than (<) 2, and stored on ice in a transportation cooler at temperatures of 0 to 6 ^{0}C. Each sample for VOC analysis was collected in three 40 mL VOA vials, preserved with hydrochloric acid (HCl) to pH < 2, and stored on ice in a transportation cooler at temperature of 0 to 6 ^{0}C.

All sample information were entered into the EPA Scribe data management system from which sample labels and Chains of Custody (COC) record were generated. The sample labels were affixed to the sample containers and stored on ice in a transportation cooler after the specified laboratory preservatives were added. The COC record document was placed in a plastic bag to protect it from getting wet and then placed in the transportation cooler. Each transportation cooler was secured by wrapping duct tape around the cooler and attaching custody seals on the lip of the cooler lid secured with clear tape, prior to delivery to the laboratory or shipping via FedEx.

Due to restrictions from FedEx concerning package drop-off and delivery, custody of the samples designated for TAL metals and VOC analyses was assumed by RST 3, who maintained custody and temperature preservation of the samples until they were shipped to the EPA DESA Laboratory on Monday, October 16, 2017. Due to the short holding time of 30 hours for total coliform and E. Coli analyses, samples designated for sanitary, total coliform, and E. Coli analyses were delivered by laboratory courier to Beckton.

6.0 Laboratory Receiving Samples

Sample Matrix	Analyses	Laboratory
Drinking Water	Total coliform, E. coli, Sanitary (Nitrate + Nitrite)	Beckton Environmental Laboratories 192 Villa Street, Ponce, Puerto Rico
Drinking Water	TAL Metals and VOCs	EPA DESA Laboratory 2890 Woodbridge Avenue, Edison New Jersey

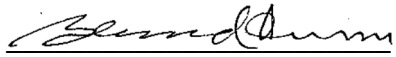
TAL: Target Analyte List
VOC: Volatile Organic Compound
EPA: U.S. Environmental Protection Agency
DESA: Division of Environmental Science and Assessment

7.0 Sample Dispatch

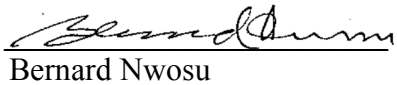
On October 14, 2017, a total of eight drinking water samples, including one field duplicate, were relinquished by RST 3 personnel to Beckton under COC Control Nos. 139662, through 139666, 139668, 139669, 139674, and 139675 for total coliform, E. Coli, and sanitary (nitrate and nitrite) analyses.

After maintaining temperature preservation and custody for the remainder of the weekend, on October 16, 2017, a total of eight drinking water samples, including one field duplicate, and one trip blank sample, were shipped by RST 3 personnel under COC Record No. 2 via FedEx Airbill No. 8115-4586-2318 to the EPA Region II DESA Laboratory for TAL metals and VOC analyses.

Refer to Attachment B, Table 1: Sample Collection Summary Table and Attachment D: Chain of Custody Record and FedEx Airbill.

Report prepared by:  10/19//2017

Bernard Nwosu — Date
for: RST 3 Site Project Manager

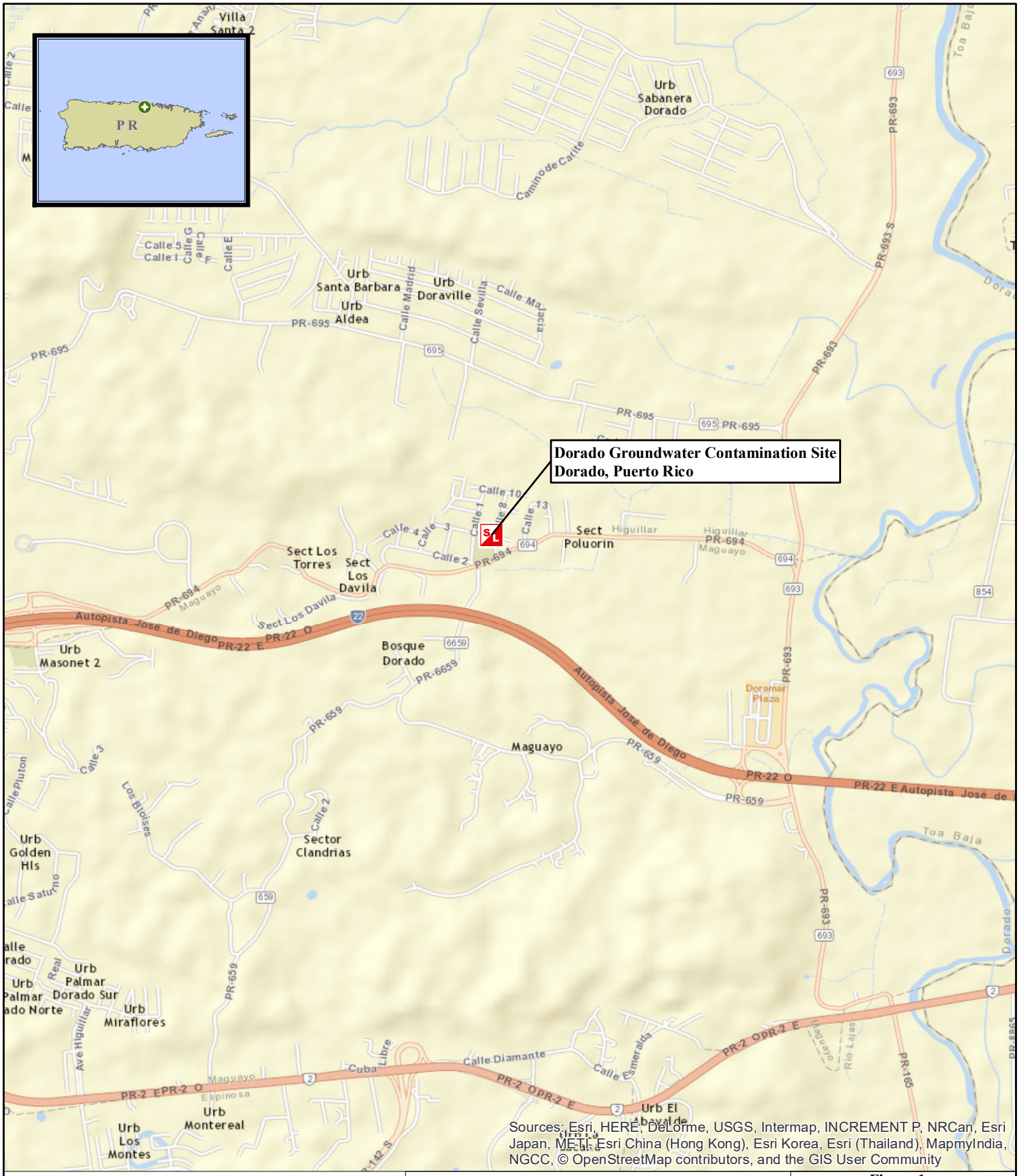
Report reviewed by:  10/19/2017

Bernard Nwosu — Date
RST 3 Group Leader

ATTACHMENT A

Figures

Figure 1: Site Location Map
Figure 2: Public Water Supply Well Location Map



Legend

SL SiteLocation

N

0 0.125 0.25 0.5 0.75 1 Miles

Weston Solutions, Inc.
Federal East Division

In association with
Scientific and Environmental Associates, Inc.,
Avatar Environmental, LLC, Environmental Compliance Consultants,
On-Site Environmental, Inc., and Sovereign Consulting, Inc.

Figure 1
Site Location Map

Dorado Groundwater Contamination Site
Dorado, Puerto Rico

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

GIS ANALYST:	T. BENTON
EPA OSC:	K. GLENN
RST SPM:	T. BENTON
FILENAME:	SITEMAP.MXD

DATE MODIFIED: 10/17/2017

SCALE

1:10,200

LEGEND

Public Water Supply Well Location

Notes:
1.) The Nevarez Well was not sampled since the standby generator was not functioning.

Figure 2: Public Water Supply Well Location Map

Dorado Groundwater Contamination Site
Dorado, Puerto Rico

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REMOVAL SUPPORT TEAM 3
CONTRACT # EP-S2-14-01

Weston Solutions, Inc.

In association with Scientific and Environmental Associates, Inc., Avatar Environmental, LLC, Environmental Compliance Consultants, On-Site Environmental, Inc., and Sovereign Consulting, Inc.

GIS ANALYST:	T. BENTON
EPA OSC:	K. GLENN
RST 3 SPM:	T. BENTON
FILENAME:	WellLocationMap
FIGURE	2
REVISION	0
DATE MODIFIED	10/17/2017

\\fsed2data1\GISData\RST_3\00100097\MXD\171016_DoradoGroundwaterContaminationSite_WellLocationMap.mxd

ATTACHMENT B

Tables

Table 1: Sample Collection Summary Table

Table 1: Sample Collection Summary Table
Hurricane Maria/Dorado Groundwater Contamination Site
Municipality of Dorado, North-central Puerto Rico
October 14, 2017

Well ID	RST 3 Sample No.	Sample Type	Sample Matrix	Sample Time	Analysis
Maguayo 4	PSRF-001A	Field Sample	Drinking Water	11:05	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
	PSRF-001B	Field Sample	Drinking Water	11:30	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
Maguayo 6	PRSF-0002A	Field Sample	Drinking Water	12:55	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
	PRSF-0002B	Field Sample	Drinking Water	13:10	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
	PRSF-0002B-01	Field Duplicate	Drinking Water	13:10	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
Santa Rosa	PRSF -0003A	Field Sample	Drinking Water	14:15	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
Maguayo	FB-10142017	Trip Blank	DI Water	15:00	VOCs
Maguayo 2	PRSF-0004A	Field Sample	Drinking Water	15:05	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs
	PRSF-0004A-A	Field Sample	Drinking Water	15:15	Total coliform, E. coli, sanitary (nitrate + nitrite), TAL metals, and VOCs

Notes:
RST 3: Removal Support Team 3
ID: Identification
No.: Number
DI: Deionized
TAL: Target Analyte List
VOC: Volatile Organic Compounds

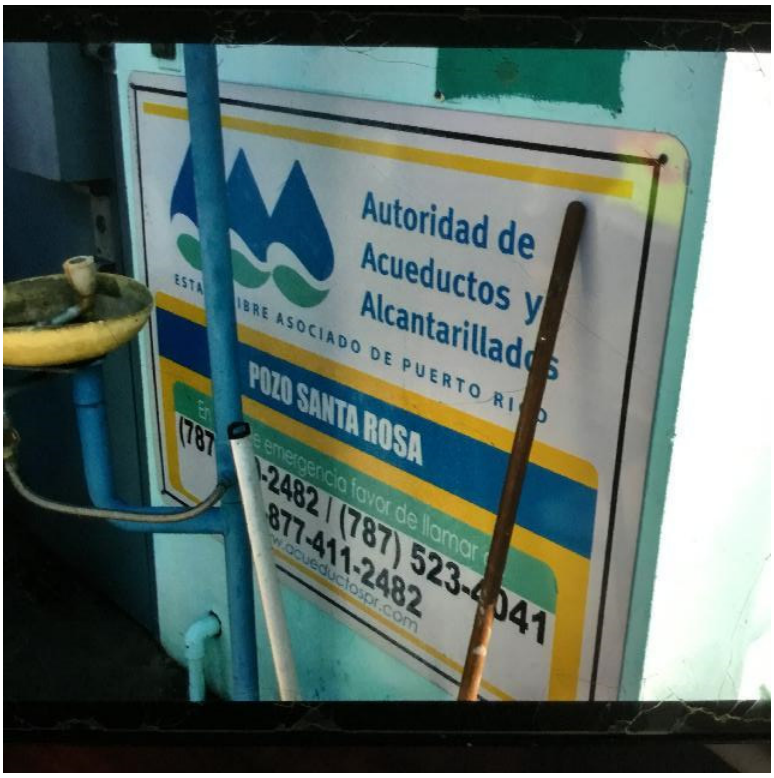
ATTACHMENT C

Photographic Documentation Log

Photographic Documentation Log
Hurricane Maria/Dorado Groundwater Contamination Site
October 14, 2017

Photograph 1: A view of the Maguayo 6 public water supply system.

Photograph 2: A view of the Maguayo 4 public water supply system.



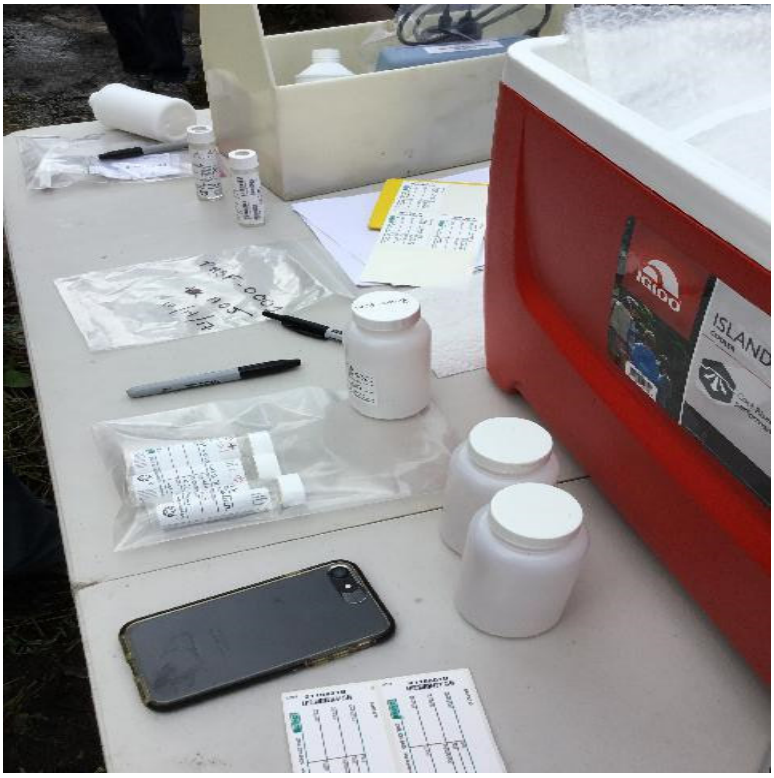
Photograph 3: A view of the Santa Rosa public water supply system.

Photograph 4: A view of a truck filling a cistern with water at the Maguayo 2 public water supply system.

Photograph 5: A view of the Nevarez water supply system. The gate was locked, and drinking water samples could not be collected.

Photograph 6: A view of a Weston Solutions, Inc., Removal Support Team 3 (RST 3) personnel collecting drinking water samples from a faucet at one of the public supply wells located in the vicinity of the Dorado Groundwater Contamination (DGWC) Site (the Site).

Photograph 7: A view of a faucet and laboratory sample bottles used to collect drinking water samples at the Maguayo 6 public water supply system.



Photograph 8: A view of RST 3 sample management set up after collecting drinking water samples.

ATTACHMENT D

Chain of Custody Record and FedEx Airbill

BECKTON
Environmental Laboratories, Inc

192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139666

Chain of Custody - Drinking Water

COMPANY: Weston Solution	SAMPLER NAME: [illegible] ID # Collector:
	SAMPLER SIGNATURE: [signature] Becat 710
SYSTEM NAME: PRSF-0003 A	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/[illegible]/17	14:15	PRASA well	Especial	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	[illegible] WHITE JAR
E. Coli	Sodium Thiosulfate	[illegible] WHITE JAR
Total N2 (NO2+NO3, NH3)	H2SO4	[illegible] WHITE 4 oz
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON Environmental Laboratories, Inc.

192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139669

Chain of Custody - Drinking Water

COMPANY: Water Solution	SAMPLER NAME: Alex Melendez [illegible] / SAMPLER SIGNATURE: [signature]	ID # Collector: Beckt-010
SYSTEM NAME: PRSF-0002B-01	STATION NUMBER:	

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		1-14/2017	13:10	PRASA Well	Especial	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1x125ml [illegible]
E. Coli	Sodium Thiosulfate	1x125ml [illegible]
Total N2 (NO2+NO3+NH3	H_2SO_4	1/250ml HDPE [illegible]
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

CLIENT

REVISION: 04/2016

BECKTON Environmental Laboratories, Inc

192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139674

Chain of Custody - Drinking Water

COMPANY: Water Station	SAMPLER NAME: Alex Melendez [illegible] ID # Collector: becat-010 SAMPLER SIGNATURE: [illegible]
SYSTEM NAME: PR SF-0004 A-A	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/[illegible]/2017	15:15	Pozo well	Especial	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1 bag 120ml WHIRL-PAK
E. Coli	Sodium Thiosulfate	1 bag 120ml WHIRL-PAK
Total N2 (NO2+NO3+NH3)	H2SO4	4 [illegible] HDPE 120ml
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

CLIENT

REVISION: 04/2016

BECKTON
Environmental Laboratories, Inc
192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139668

Chain of Custody - Drinking Water

COMPANY: Weston Solution	SAMPLER NAME: Alex Melendez [illegible] SAMPLER SIGNATURE: [signature] ID # Collector: Beckt-010
SYSTEM NAME: PRSF-0004 A	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	15:05 pm	Agua Well	General	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1 bag 120ml Whirl-Pak
E-Coli	Sodium Thiosulfate	1 bag 120ml Whirl-Pak
Total N2 (NO2 + NO3 + NH3)	H2SO4	120ml HDPE 120ml
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON Environmental Laboratories, Inc.
192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139663

Chain of Custody - Drinking Water

COMPANY: Ulrstan Solution	SAMPLER NAME: Alex Malpica dev. / SAMPLER SIGNATURE: [illegible] / ID # Collector: Beca1-010
SYSTEM NAME: PR SF-0001 B	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	11:30AM	RAAP well	Cumpl	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1 bag 100ml WHIRL PAK
E Coli	Sodium Thiosulfate	1 bag 100ml WHIRL PAK
Total N2 (NO2+NO3+NH3)	H2SO4	1 Plastic [illegible]
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON Environmental Laboratories, Inc.

192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139664

Chain of Custody - Drinking Water

COMPANY	SAMPLER NAME / SIGNATURE	ID # Collector
Weston Solutions	SAMPLER NAME: Alex [illegible] SAMPLER SIGNATURE: [signature]	Becat-010

SYSTEM NAME:	STATION NUMBER:
PR SF-0002 A	

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	12:55 PM	Y RAIA WELL	Final	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total, Coliform	Sodium Thiosulfate	1 bag x 20mL WHIRLPAK
E. Coli	Sodium Thiosulfate	1 bag 100mL WHIRL PAK
Total N2 (NO2+NO3+NH3)	H2SO4	1 x 250mL HDPE 250mL
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON
Environmental Laboratories, Inc.
192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139665

Chain of Custody - Drinking Water

COMPANY: Weston Solutions	SAMPLER NAME: Alex Mendez R. / SAMPLER SIGNATURE: [illegible] / ID # Collector: BECL1010
SYSTEM NAME: PR SF-0002 B	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	13:10 pm	BRASA WELL	Especial	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
________umhos/cm	________mg/L	________S.U.	________°C	________mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1 bag 100ml WHIRL-PAK
E. Coli	Sodium Thiosulfate	1 bag 100ml WHIRL-PAK
Total N2 (NO2/NO3/NH3)	H2SO4	1 x 250ml [illegible] 250ml
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON
Environmental Laboratories, Inc
192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139675

Chain of Custody - Drinking Water

COMPANY: Weston Solutions	SAMPLER NAME: [illegible] ID # Collector:
	SAMPLER SIGNATURE: [illegible]
SYSTEM NAME: FB-10142017	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	15:00	[illegible]	[illegible]	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
______umhos/cm	______mg/L	______S.U.	______°C	______mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	[illegible]
E. Coli	Sodium Thiosulfate	[illegible]
Total N2 (Nitrate/Nitrite)	H_2SO_4	[illegible] HDPE [illegible]
[illegible]		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

BECKTON
Environmental Laboratories Inc.

192 Villa Street
Ponce, Puerto Rico 00730-4875
Tel. 787-841-7373 Fax 787-841-7313
Lab ID #: PR 00012

Control Number
139662

Chain of Custody - Drinking Water

COMPANY Weston Solution	SAMPLER NAME: Alex Melendez Cruz SAMPLER SIGNATURE: [signature] ID # Collector: Brent-010
SYSTEM NAME: PRSF-0001-A	STATION NUMBER:

SYSTEM ID: PWSS#	SAMPLING LOCATION	SAMPLING DATE	SAMPLING TIME	WATER SOURCE	TYPE OF SAMPLE	SAMPLE NUMBER
		10/14/2017	11:05 am	IRASA well	Special	

CONDUCTIVITY	DISSOLVED OXYGEN	PH	Temperature	Residual chlorine
— umhos/cm	— mg/L	— S.U.	— °C	— mg/L

Parameters to be tested:	Preservatives	Container (size/type/volume)
Total Coliform	Sodium Thiosulfate	1145 110ml WHIRL-PAK
E. Coli	Sodium Thiosulfate	1145 110ml WHIRL-PAK
Total N2 (NO2 + NO3 + NH3)	H2SO4	470ml HDPE 470mL
~~[illegible]~~ G. Hernandez		
[illegible]		
		Temperature Received:

Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:

REVISION: 04/2016

CLIENT

USEPA
DateShipped: 10/16/2017
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Hurricane Maria Response/PR
Contact Name: EPA OSC Keith Glenn
Contact Phone: 908-420-4486

No: COC 2
Cooler #: 2
Lab: DESA Laboratory
Lab Phone: 732-321-6695

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	Lab QC
	FB-10142017	Maguayo	Trip Blank	Drinking Water	10/14/2017	3	40mL VOAs		
	PRSF-0001A	Maguayo 4	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0001A	Maguayo 4	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0001B	Maguayo 4	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0001B	Maguayo 4	VOCs	Drinking Water	10/14/2017	3	40 mL VOAs	HCl	
	PRSF-0002A	Maguayo 6	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0002A	Maguayo 6	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0002B	Maguayo 6	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0002B	Maguayo 6	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0002B-01	Maguayo 6	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	

Special Instructions: IMMEDIATE - 24 hr turnaround time

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

USEPA
DateShipped: 10/16/2017
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Hurricane Maria Response/PR
Contact Name: EPA OSC Keith Glenn
Contact Phone: 908-420-4486

No: COC 2
Cooler #: 2
Lab: DESA Laboratory
Lab Phone: 732-321-6695

Lab #	Sample #	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	Lab QC
	PRSF-0002B-01	Maguayo 6	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0003A	Santa Rosa	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0003A	Santa Rosa	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0004A	Maguayo 2	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0004A	Maguayo 2	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	
	PRSF-0004A-A	Maguayo 2	Metals	Drinking Water	10/14/2017	1	250mL Poly	HNO3 pH<2	
	PRSF-0004A-A	Maguayo 2	VOCs	Drinking Water	10/14/2017	3	40mL VOAs	HCl	

Special Instructions: IMMEDIATE - 24 hr turnaround time

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt

FedEx Express

International Air Waybill

For FedEx services worldwide. Packages up to 150 lbs. (68 kg), excluding dangerous goods. Not all services and options are available to all destinations.

Sender's Copy

1 From *Please print and press hard.*

Date 10/16/17 Sender's FedEx Account Number 788048210454

Sender's Name Paul Callahan Phone 978-621-1203

Company Western Solutions c/o Embassy Suites

Address 8000 Tartak st.

Address

City Carolina State/Province PR

Country USA ZIP/Postal Code 00979

Email Address Paul.callahan@westernsolutions.com

Internal Billing Reference FIRST 24 CHARACTERS WILL APPEAR ON INVOICE

2 To

Residential Delivery

Recipient's Name EPA DESA LAB Phone 732-321-4430

Company Attn: Rachael Graham

Address 2890 Woodbridge Ave. Dept./Floor

Address Building 209

City Edison State/Province NJ

Country USA ZIP/Postal Code 00837

Email Address Graham.Rachael@epa.gov

Recipient's Tax ID Number for Customs Purposes GST/RFC/VAT/IN/EIN/ABN/TIN, OR AS LOCALLY REQUIRED

3 Shipment Information

Total Packages 1 Total Weight 43.45 lbs kg DIM 24/14/13 in cm

Commodity Description (DETAIL REQUIRED. PRINT IN ENGLISH.)	Harmonized Code	Country of Manufacture	Value for Customs
Water sample		USA	$1.00

Has EEI been filed in AES? (For U.S. Export Only: Check One)
- [X] No EEI required, value $2,500 or less per Sch. B Number, no license required (NLR), not subject to ITAR.
- [ ] No EEI required, enter exemption number
- [ ] Yes – Enter AES proof of filing citation

Total Declared Value for Carriage

*If other than NLR, enter License Exception

Total Value for Customs (Specify Currency)

The service order has changed in Section 4. Signature options have been added to Section 6.

For Completion Instructions, and details on services and options, see back of fifth page.

FedEx Tracking Number 8115 4586 2318 Form ID No. 0402

4 Express Package Service

NOTE: Service order has changed. Please select carefully.

- [X] FedEx Intl. First
- [ ] FedEx Intl. Priority
- [ ] FedEx Intl. Economy

5 Packaging

- [ ] FedEx Envelope
- [ ] FedEx Pak
- [ ] FedEx Box
- [ ] FedEx Tube
- [ ] FedEx 10kg Box
- [ ] FedEx 25kg Box
- [X] Other

6 Special Handling and Delivery Signature Options Fees may apply. See the FedEx Service Guide.

- [ ] HOLD at FedEx Location
- [ ] SATURDAY Delivery
- [ ] Direct Signature — Someone at recipient's address may sign for delivery.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only.

7 Payment Complete payment options for both transportation charges and duties and taxes.

Bill transportation charges to:

Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check/Cheque

FedEx Acct. No. 4023-5010-3 FedEx Use Only

Credit Card No.

Credit Card Exp. Date

Bill duties and taxes to:

Enter FedEx Acct. No. below.

- [ ] Sender Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party

FedEx Acct. No.

8 Required Signature

Use of this Air Waybill constitutes your agreement to the Conditions of Contract on the back of this Air Waybill, and you represent that this shipment does not require a U.S. State Department License or contain dangerous goods. Certain international treaties, including the Warsaw or Montreal Convention, may apply to this shipment and limit our liability for damage, loss, or delay, as described in the Conditions of Contract. **WARNING:** These commodities, technology, or software were exported from the United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law prohibited.

Sender's Signature: Paul Callahan

662

For questions or to ship and track packages, go to fedex.com.
Or in the U.S. call 1.800.GoFedEx 1.800.463.3339.
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For a full version of the Conditions of Contract, go to **fedex.com**.

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01/17

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